

REMARKS

By the present Amendment, claims 1, 9, 16, 21, and 24 have been amended. No claims have been added or cancelled. Accordingly, claims 1, 3, 6-12, 14-21, 24, and 25 remain pending in the application. Claims 1, 9, 16, 21, and 24 are independent.

In the Office Action of June 12, 2008, claims 1, 3, 5, 6, 11, 14, and 24 were rejected under 35 USC §103(a) as being unpatentable over U.S. Patent No. 6,311,819, issued to Stromme ("Stromme") in view of U.S. Patent No. 4,015,703 issued to Keller. While not explicitly indicated, the Office Action also appears to reject claims 7-9 and 15 under 35 USC §103(a) as being unpatentable over Stromme in view of Keller. Claim 12 was rejected under 35 USC §103(a) as being unpatentable over Stromme in view of Keller, and further in view of U.S. Patent No. 4,993,700 to Winkler. Claim 10 was rejected under 35 USC §103(a) as being unpatentable over Stromme in view of Keller, and further in view of U.S. Patent No. 4,837,064 issued to Tschudin-Mahrer. Claims 17-20 were rejected under 35 USC §103(a) as being unpatentable over Stromme, in view of Keller, and further in view of U.S. Patent No. 3,966,047 to Steiner. Claim 21 was rejected under 35 USC §103(a) as being unpatentable over Stromme in view of Keller and further in view of U.S. Patent No. 5,486,063 issued to Fox et al. ("Fox"). These rejections are respectfully traversed.

The Examiner's indication that claim 16 is allowed, is noted with appreciation.

In rejecting the claims, the Office Action alleges that Stromme discloses an apparatus that includes most of the features recited in, for example, independent claim 1. For example, the Office Action alleges that Stromme discloses a sheet transfer member and a transfer surface that is in contact with the sheet so that it is

transferred by the sheet transfer member, a sheet supporting surface area provided in contact with the sheet transferred by the sheet transfer member, and an information reader arranged in the evaluation region to face one of the sheets transferred by the sheet transfer member. The Office Action further indicates that when viewed in a direction perpendicular to the thickness direction, the sheets are ejected into the evaluation region in a tangential line, after leaving the boundary point of the transfer surface on the transfer member from which the sheet starts to separate away from the sheet transfer surface in a straight line above the guide member in passing through the information evaluation region. Furthermore, the Office Action indicates that the sheet transferred by the sheet transfer member is substantially planar with the sheet supporting surface area when in contact with it. The Office Action admits that Stromme fails to disclose the sheet separating away from the path of an imaginary straight line passing through the information reading point. Keller is relied upon for disclosing a sheet material transport system capable of varying the input feeding and output angles of the media sheet so that the sheet is ejected by the sheet transfer member at a boundary point in a straight tangential path intersecting the sheet guides. The Office Action further indicates that Keller discloses the sheet beginning to separate away from the tangential path into the sensor detection area enclosed by the guide members, and that the tangential line is prevented from extending parallel to the imaginary straight line. Applicants respectfully disagree.

As amended, independent claim 1 defines an apparatus for handling sheets that comprises:

a sheet transfer member being movable, and having a transfer surface contactable with one of the sheets so that the one of the sheets is transferred by the sheet transfer member,

a sheet supporting surface area being contactable with the one of the sheet transferred by the sheet transfer member, said sheet supporting surface extending to be contactable with the one of the sheet between the transfer surface and the information reading point, and

an information reader arranged to face to the one of the sheet transferred by the sheet transfer member and having in an information reading range including an information reading point, in which reading range an information is securely readable from the one of the sheets,

wherein as seen in a view direction perpendicular to a thickness direction of the one of the sheets and a transferred direction of the one of the sheets transferred by the sheet transfer member, a tangential line of a boundary point of the transfer surface of the sheet transfer member from which boundary point the one of the sheets starts to separate away from the transfer surface extends in a side area of an imaginary straight line passing the information reading point and the boundary point, which side area including the sheet supporting surface area, and

wherein the tangential line intersects the sheet supporting surface area as seen in the view direction to press the one of the sheets against the sheet supporting surface area.

The apparatus of independent claim 1 includes a sheet transfer member, a sheet supporting surface area, and an information reader. The sheet transfer member is movable and has a transfer surface that can contact the sheets so that the sheet is transferred. The sheet supporting surface area makes contact with the sheet being transferred by the sheet transfer member and extends such that it contacts the sheet between the transfer surface and the information reading point. The information reader is arranged to face the sheet being transferred and has an information reading range that includes an information reading point in order to read information from the sheet being transferred. According to independent claim 1, when seen in a view direction that is perpendicular to the thickness direction of the

sheet and the transfer direction of the sheet transfer member, a tangential line of the boundary point of the transfer surface of the sheet transfer member from which the sheet starts to separate away from the transfer surface extends in an area of an imaginary straight line passing the information reading point and the boundary point with the side area including the sheet supporting surface area. The tangential line intersects the sheet supporting surface area as seen in the view direction to press the sheet against the sheet supporting surface area. Additionally, the sheet being transferred by the sheet transfer member is substantially planar with the sheet supporting surface area when it is in contact with it.

In response to Applicants' previously submitted arguments, the Office Action indicates that all arguments, including those found on February 11, 2008, and July 5, 2007, have been fully considered. Applicant notes, however, that the response to the arguments totally dismisses the points made in responding to these Office Actions, particularly with respect to the arguments filed on February 11, 2008. Rather, the Office Action merely addresses arguments filed on January 12, 2006 which have long been deemed moot.

Regarding the arguments filed on February 11, 2008, Applicants specifically indicated that Keller discloses guard meshes (22) that do not come into contact with the sheet and are not intended to provide any guidance whatsoever to the sheet being transported. Importantly, this feature was specifically discussed and pointed out during the interview conducted on January 29, 2008. See page 18, last paragraph, bridging to page 19 of arguments filed February 11, 2008. The Office Action, however, appears to maintain the position that the guard meshes of Keller (22) are guide members. It is clear in the disclosure of Keller that the guard meshes never provide any guidance and never come into contact with the sheet being

transferred. It is simply unclear how a device such as that of Stromme which includes a sheet supporting surface area (as indicated in the Office Action) can be combined with Keller's device which explicitly omits a sheet supporting surface in order to obtain a sheet supporting surface area that contacts the sheet being transferred in the manner set forth in the claimed invention. There is no realistic expectation of success in combining these two references. In fact, the references are blatantly contradictory to each other because one provides a sheet supporting surface area that contacts the sheet while the other provides an arrangement that does not have a sheet supporting surface area. How is it possible that these two diametrically opposite arrangements can ever be combined?

Applicants further note that, according to Keller, there is no sheet supporting surface area that is contactable with the sheet from which the information is read by the information reading range or point. See column 5, lines 1-5. Furthermore, as admitted in the Office Action, Stromme fails to disclose the sheet separating away from the path of the imaginary straight line passing through the information reading point.

In contrast, the claimed tangential line extending in the side area of the imaginary straight line passing the information reading point and the boundary point of the transfer surface of the sheet transfer member from which the sheet starts to separate away from the transfer surface. Furthermore, the side area includes the sheet supporting surface area, and the tangential line intersects the sheet supporting surface area to press the sheet against the sheet supporting surface area. This feature is not disclosed by any of the cited references, and cannot be obtained using any combination of the cited references.

Furthermore, according to independent claim 1, the sheet is pressed against the sheet supporting surface area and supported in this position before the information reading range or point so that the sheet can be maintained in a stable support position with respect to the information reading point to improve the accuracy with which information is being read. Such a stable arrangement for retrieving information from the information reading range or point is not disclosed or suggested by any combination of the cited references.

It is therefore respectfully submitted that independent claim 1 is allowable over the art of record.

Claims 3, 6-8, 10-12, 14, 15, 17-20, and 25 depend from independent claim 1, and are therefore believed allowable for at least the reasons set forth above with respect to independent claim 1. In addition, these claims each introduce novel elements that independently render them patentable over the art of record.

As amended, independent claim 9 defines an apparatus for handling sheets that comprises:

a sheet transfer member being movable, and having a transfer surface contactable with one of the sheets so that the one of the sheets is transferred by the sheet transfer member,

a sheet supporting surface area being contactable with the one of the sheet transferred by the sheet transfer member,

an information reader arranged to face to the one of the sheet transferred by the sheet transfer member and having in an information reading range including an information reading point, in which reading range an information is securely readable from the one of the sheets, and

a press member being opposed to the sheet transfer member in such a manner that the one of the sheets is allowed to be pressed between the sheet transfer member and the press member at a boundary point in a press direction,

wherein an imaginary straight line passing the boundary point in a direction perpendicular to the press direction intersects

the sheet supporting surface area as seen in a view direction perpendicular to a thickness direction of the one of the sheets and a transferred direction of the one of the sheets transferred by the sheet transfer member.

According to at least one feature of independent claim 9, an imaginary straight line passing the boundary point in a direction perpendicular to the press direction intersects the sheet supporting surface area as seen in a view direction perpendicular to a thickness direction of the sheet being transferred and along a transferred direction of the sheet by the sheet transfer member.

The Office Action alleges that these features are disclosed by the combination of Stromme and Keller. As previously discussed, however, Keller fails to provide any disclosure or suggestion for a sheet supporting surface area that is contactable with the sheet from which the information is read by the information reading range or point. Additionally, Stromme fails to disclose the sheet separating away from the path of the imaginary straight line passing through the information reading point. Consequently, the cited references necessarily fail to provide any disclosure or suggestion for an imaginary straight line passing the boundary point in a direction perpendicular to the press direction and intersecting the sheet supporting surface area, as set forth in independent claim 9.

It is therefore respectfully submitted that independent claim 9 is allowable over the art of record.

As amended, independent claim 21 defines an apparatus for handling sheets that comprises:

a sheet transfer member being movable, and having a transfer surface contactable with one of the sheets so that the one of the sheets is transferred by the sheet transfer member,

a sheet supporting surface area being contactable with the one of the sheet transferred by the sheet transfer member,

an information reader arranged to face to the one of the sheet transferred by the sheet transfer member and having in an information reading range including an information reading point, in which reading range an information is securely readable from the one of the sheets, and

a distance detector arranged to face to the one of the sheets so that a value changing in accordance with a change in distance between the one of the sheets and the information reader is measured by the distance detector,

wherein the information reader includes a light emitter for projecting a light to the one of the sheets and a light receiver for receiving the light reflected by the one of the sheets to read the information from the one of the sheets, and the light emitter is controlled in accordance with the value in such a manner that an intensity of the light emitted by the light emitter is increased in accordance with the increase of distance between the one of the sheets and the information reader.

According to some of the features of independent claim 21, the information reader includes a light emitter for projecting a light to the sheet being transferred and a light receiver for receiving the light reflected by the sheet in order to read the information from the sheet. Furthermore, the light emitter is controlled in accordance with a value such that an intensity of the light emitted is increased in accordance with the increase in distance between the sheet being transferred and the information reader.

The Office Action alleges that the combination of Stromme, Keller, and Fox discloses all the features recited in independent claim 21. This does not appear to be the case. In particular, Applicants note that Fox fails to disclose the intensity of the emitted light being increased in accordance with the increase in distance between the sheet and information reader. Rather, Fox merely indicates that the output signal of the sensor detecting the emitted light beam varies in intensity. See column 4, lines 34-36. Accordingly, the intensity of the light emitted to the sheets, as

recited in independent claim 21, is clearly different from the output signal of the sensor used to detect the emitted light beam in Fox.

It is therefore respectfully submitted that independent claim 21 is allowable over the art of record.

As amended, independent claim 24 defines an apparatus for handling sheets that comprises:

a sheet transfer member being movable, and having a transfer surface contactable with one of the sheets so that the one of the sheets is transferred by the sheet transfer member,

a sheet supporting surface area being contactable with the one of the sheet transferred by the sheet transfer member,

an information reader arranged to face to the one of the sheet transferred by the sheet transfer member and having in an information reading range including an information reading point, in which reading range an information is securely readable from the one of the sheets, and

a pneumatic blower for applying a pneumatic pressure to the one of the sheets in such a manner that the one of the sheets is urged by the pneumatic pressure to be pressed against the sheet supporting surface area.

According to at least one feature of independent claim 24, the apparatus includes a pneumatic blower for applying a pneumatic pressure to the sheet being transferred in such a manner that the sheet is urged by the pneumatic pressure to be pressed against the sheet supporting surface area.

The Office Action alleges that the combination of Stromme and Keller discloses such features. This is clearly not the case. Keller simply fails to provide any disclosure, or even suggestion, for a sheet supporting surface area that is contactable with the sheet from which the information is being read. Furthermore, as clearly shown in Fig. 1 of Keller, Keller provides a blower (10) that urges the sheet to separate from the guard mesh (22). There is no disclosure or suggestion for a

blower that urges the sheet to be pressed against the sheet supporting surface area for two reasons, namely the failure for Keller to provide a sheet supporting area as well as the failure to even suggest that the blower blows the sheet towards the alleged guard mesh. In fact, Keller clearly teaches away from such a feature by blowing the sheet away from guard mesh to separate therefrom.

It is therefore respectfully submitted that independent claim 24 is allowable over the art of record.

For the reasons stated above, it is respectfully submitted that all of the pending claims are now in condition for allowance. Therefore, the issuance of a Notice of Allowance is believed in order, and courteously solicited.

If the Examiner believes that there are any matters which can be resolved by way of either a personal or telephone interview, the Examiner is invited to contact Applicants' undersigned attorney at the number indicated below.

AUTHORIZATION

Applicants request any shortage or excess in fees in connection with the filing of this paper, including extension of time fees, and for which no other form of payment is offered, be charged or credited to Deposit Account No. 01-2135 (Case: 500.43486X00).

Respectfully submitted,
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Dated: October 14, 2008